

Water Quality Trading in Region 10

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What is Water Quality Trading?

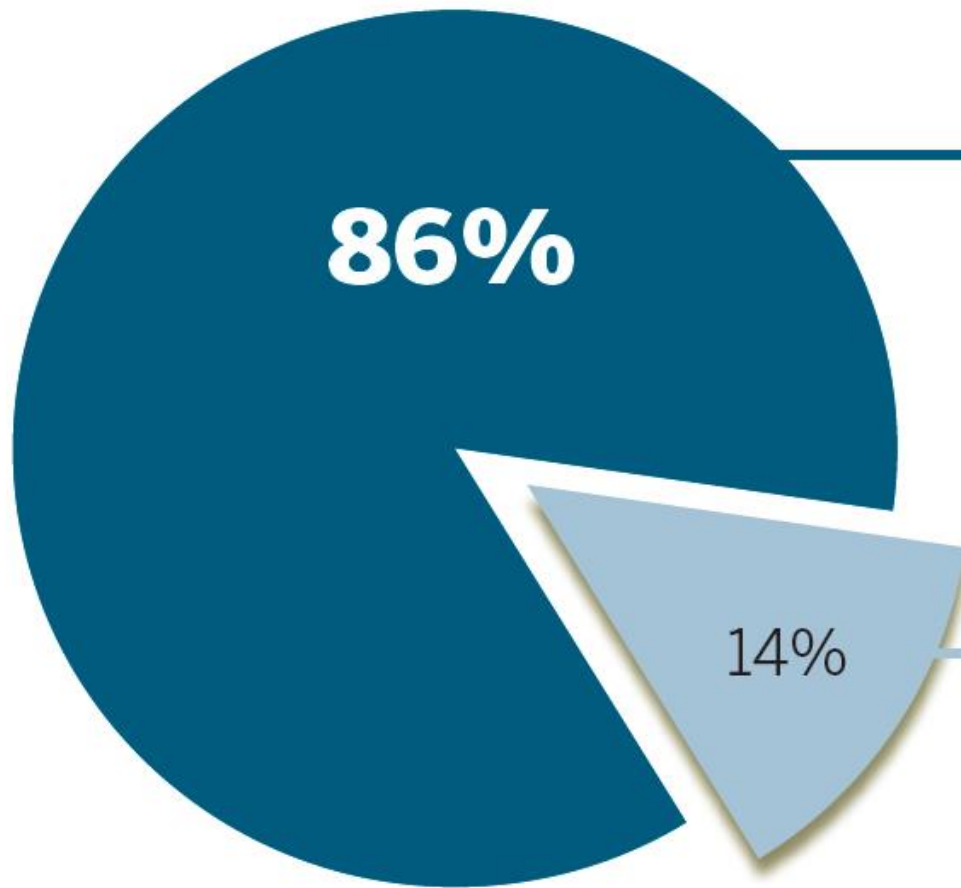
- Voluntary exchange of pollutant reduction credits
- Sources with higher pollutant control costs may purchase pollutant credits from sources with lower control costs
- Credits are created by reducing below level required by regulations
- An approach to meeting CWA goals, not an alternative to them

The Problem

- Impaired water body segments*:
 - Idaho: 915
 - Oregon: 1,397
 - Washington: 2,420
- Pace of restoration activities is not nearly enough
 - e.g., In Oregon 300 - 500 projects each year only covers 100 – 300 miles
- Projects tend to be reactive to environmental challenges and at a small scale

*From EPA's website "National Summary of Impaired Waters and TMDLs"

Need New Approaches to Meet NPS Challenge



Non-Point Source



Point Source

Contributors to temperature impairment in Willamette River Basin

SOURCE: <http://www.deq.state.or.us>

The Problem (continued)

- Regulatory drivers cover only small portion of the area facing environmental challenge
- TMDLs can only assign enforceable load reduction to point sources
- Point sources tend to invest heavily in technological solutions to single regulatory driver
- Appropriate for some but not all parameters
- Regulatory tools to address nonpoint source loads not likely any time soon

How Water Quality Trading Works

- A 'cap' or limit (TMDL) is placed on the total amount of pollutant that can be released from all sources
- Point Sources receive an allocation under the cap - Waste Load Allocation - that is converted to a permit limit
- Nonpoint sources receive a Load Allocation
- Point sources can meet their allocation (permit limit) by:
 - Making all necessary reductions on-site OR
 - Buying additional allocations - credits - from other sources that have reduced pollutants below their own allocation

Conditions Necessary for Trading

- **Market Driver**
 - Regulatory requirement sets limit on emissions or effluent discharges
 - Defines commodity and market area
- **Cost differential**
 - Financial incentive for entering into a trade
 - Must cover transaction costs
- **Ability**
 - Legal authority, technical feasibility and adequate supply
- **Opportunity**
 - Tools for trading available

Water Quality Trading Design Issues

- Lack of specific authority to trade in Clean Water Act and vague EPA guidance (<http://water.epa.gov/type/watersheds/trading.cfm>)
 - Water Quality Trading Policy - Jan. 2003
 - Water Quality Trading Assessment Handbook – Nov. 2004
 - Water Quality Trading Toolkit for Permit Writers - Aug. 2007
- Need for TMDL to assess watershed specific conditions and determine pollutant load from source categories
- Potential for localized water quality impacts from trading
- Anti-degradation and backsliding considerations
- Lack of enforcement authority over nonpoint sources and Load Allocations

EPA Water Quality Trading Policy

- Geographic scope – within a watershed
 - Area determined by environmental equivalence
- Pollutant suitability
 - Nutrients – encourage
 - Persistent bioaccumulative toxics – discourage
 - Other pollutants – temperature - may be OK
- Trading may occur pre-TMDL, to meet TMDL, and to maintain unimpaired waters

EPA Water Quality Trading Policy

- Facilities may not trade to meet technology-based NPDES limits
 - May trade to meet more stringent water quality-based limits (such as indicated by TMDL)
- Surplus credits created only when discharge reduced *below* water quality-based limits
- Trading must not result in exceedance of water quality standard (no “hot spots”)
- Elements of credible trading programs
 - e.g., legal authority, credit definition, compliance provisions, transparency & public participation

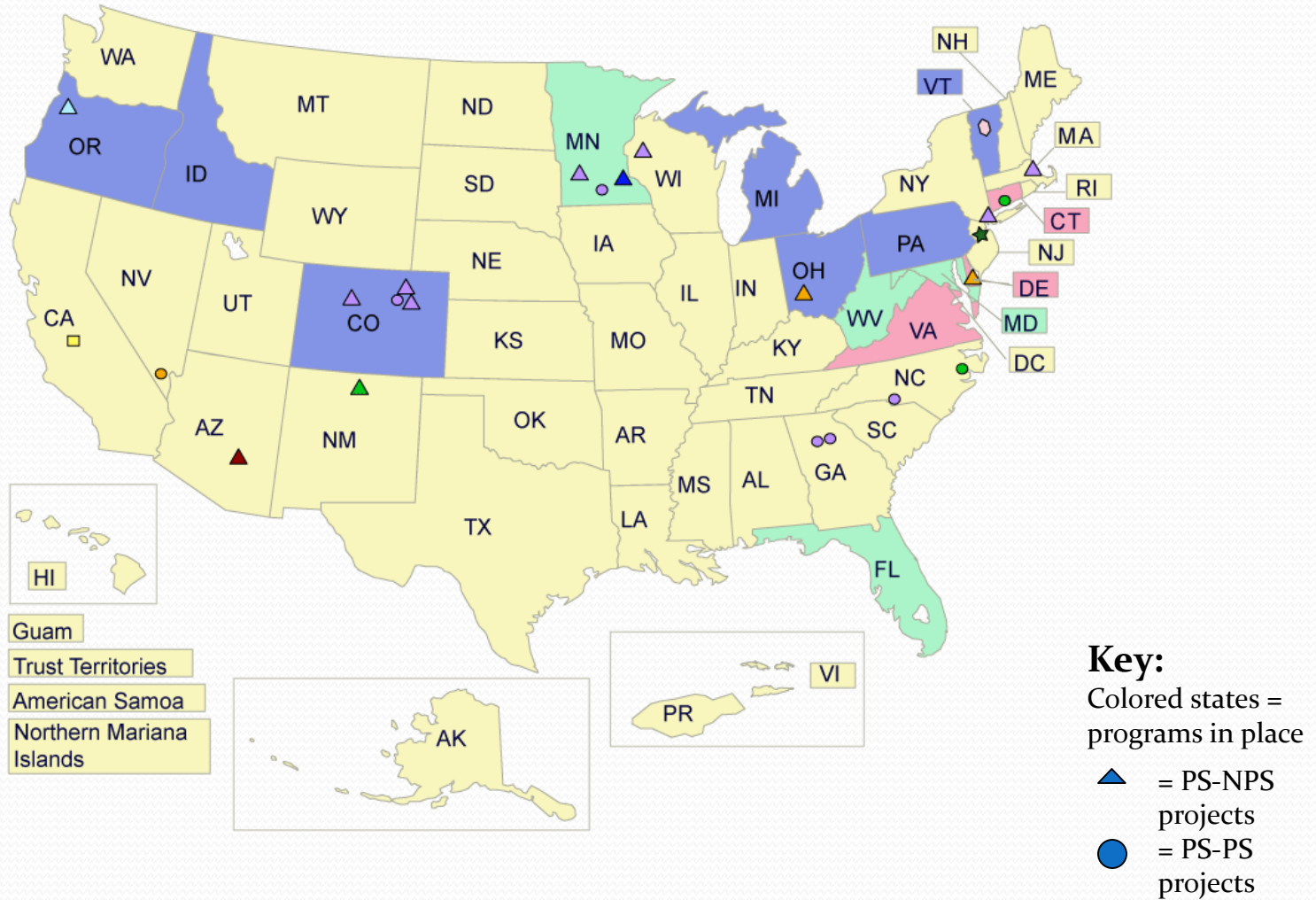
EPA's Water Quality Trading Policy

– Key Design Elements

- Surplus credits created when discharge reduced *below* water quality-based limits
 - For nonpoint sources: below TMDL load allocation
- Credit creation and use have limitations, which trading system must help enforce
 - No exceedance of water quality standard (no “hot spots”) or cap established by TMDL
 - Credits must be generated & used within same time period
- Flexible NPDES permit approaches to implement
 - Watershed permits with group caps, variable permit limits that allow trades without permit revision

Water Quality Trading in U.S.

Slow progress, mixed results



EPA Region 10's Trading Experience

- **Idaho projects:**

- 1998 – 2000 Lower Boise River: PS – NPS *phosphorus*
 - *Not implemented because no TMDL yet*
 - *Pre-TMDL trade (Dixie Drain project) authorized (2012)*
- 2002 -2004 Mid-Snake River: PS - PS *phosphorus*
 - *Trading authorized in Aquaculture GP for facilities on Mid-Snake (2007)*
 - *Trading authorization removed from Twin Falls permit due to incorrect trading ratios from faulty TMDL (2010)*

- **Oregon projects:**

- 2002 – 2005: Clean Water Services/Tualatin River: PS – NPS *temperature*
- 2011: City of Medford: PS-NPS *temperature*

- **Washington projects:**

- 2010+: Spokane River - *in development*

Watershed and Pollutant Factors for Trading Success

- Water quality problem is characterized and desired target identified, with appropriate pollutant type
- One or more “motivated” PS facing more stringent NPDES permit limits (e.g., new limits from a TMDL)
- Necessary pollutant load reductions can be achieved with some sources over-controlling and others under-controlling
- Significant differences in pollutant control costs among PS or between PS and NPS

Watershed and Pollutant Factors for Trading Success

- Timing of pollutant reductions can be aligned for generation/use of credits
 - e.g., seasonal, annual
- Stakeholders willing to embrace and invest in nontraditional approach
- Sufficient modeling, data to assess relative water quality impact of trades

What's Next in the Region

- Interest in water quality trading is growing again
- Desire for consistency in trading approach across states
- Barriers include:
 - Lack of understanding by stakeholders of what makes a watershed suitable for trading
 - Demand and supply of credits often do not align
 - Limited state resources to respond to every proposal
- In Aug. 2012 NRCS awarded \$1.5 million Conservation Innovation Grant for Willamette Partnership & The Freshwater Trust to lead three-year project to develop Joint Regional Agreement on Water Quality Trading framework – ID, OR, WA & R10 are partners.

“Joint Regional Agreement” Project

- Goal: Consistency across PNW on water quality trading framework & infrastructure to support credit creation, registration, verification
- ID, OR & WA receiving \$ from grant for staff participation; EPA R10 is also committed to participating
- Project launched Jan. 2013 – current schedule is to complete framework by end of year and pilot projects in 2014
- Three phases or “tiers” of work completed 2013 (draft versions):
 - Tier One: Agency authorities at federal and state level to implement water quality trading including statutes, rules, case law and guidance.
 - Tier Two: Standard Operating Procedures for implementing trading
 - Tier Three: State Specific Addenda (e.g., determining baseline for establishing credits)
- **EPA’s role is to ensure consistency with EPA’s Water Quality Trading Policy and Clean Water Act, and to encourage rigorous, transparent, and feasible approach to trading**
- Pilot Projects in 2014 to test framework, invite public scrutiny